

## EAST Search History

| Ref # | Hits | Search Query                                                           | DBs                                                     | Default Operator | Plurals | Time Stamp          |
|-------|------|------------------------------------------------------------------------|---------------------------------------------------------|------------------|---------|---------------------|
| L1    | 2    | "4679213".PN.                                                          | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ              | ON      | 2008/10/16<br>12:44 |
| L2    | 2    | "5727062".PN.                                                          | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ              | ON      | 2008/10/16<br>12:45 |
| S2    | 7    | (Des with "key scheduling") and @ad < "20001213"                       | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2004/09/22<br>16:32 |
| S3    | 11   | "661843"                                                               | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2004/09/20<br>15:48 |
| S4    | 87   | sboxes                                                                 | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2004/09/20<br>16:49 |
| S5    | 4    | ((sboxes with (chang\$3 with bit))) and @ad < "20001213"               | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2004/09/20<br>17:26 |
| S6    | 18   | ((des with permutation) and (des with expansion)) and @ad < "20001213" | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2004/09/21<br>09:08 |
| S7    | 100  | 3-to-1 adj multiplexers                                                | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2004/09/21<br>09:14 |
| S8    | 530  | 2-to-1 adj multiplexers                                                | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR               | ON      | 2004/09/21<br>09:21 |

|     |     |                                                                                 |                                                         |    |    |                     |
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| S9  | 401 | (2-to-1 adj<br>multiplexers) and @ad<br>< "20001213"                            | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/22<br>14:08 |
| S10 | 397 | (2-to-1 adj<br>multiplexers) and @ad<br>< "20001013"                            | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>09:15 |
| S11 | 93  | ((2-to-1 adj<br>multiplexers) and @ad<br>< "20001013") and<br>"DES"             | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>09:18 |
| S12 | 8   | ((2-to-1 adj<br>multiplexers) with<br>"clock cycle")                            | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>09:21 |
| S13 | 3   | ((((2-to-1 adj<br>multiplexers) with<br>"clock cycle")) and<br>@ad < "20001213" | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>13:02 |
| S14 | 235 | 380/42.ccls.                                                                    | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>13:03 |
| S15 | 184 | 380/42.ccls. and @ad<br>< "20001213"                                            | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>13:16 |
| S16 | 0   | (380/42.ccls. and @ad<br>< "20001213") and<br>("expansion logic")               | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>13:25 |
| S17 | 20  | (380/42.ccls. and @ad<br>< "20001213") and<br>(expansion)                       | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>13:28 |
| S18 | 1   | (380/42.ccls. and @ad<br>< "20001213") and<br>(expansion with "size")           | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>13:32 |

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| S19 | 5   | (380/42.ccls. and @ad < "20001213") and (expansion with bit) | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>14:13 |
| S20 | 188 | "expansion logic"                                            | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>15:35 |
| S21 | 4   | "expansion logic" with (coupled with multiplex \$3)          | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>15:36 |
| S22 | 8   | "expansion logic" with (multiplex\$3)                        | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>15:55 |
| S23 | 3   | "inverse permutation logic" with (multiplex \$3)             | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>15:56 |
| S24 | 6   | "inverse permutation" with (multiplex\$3)                    | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>15:59 |
| S25 | 8   | "expansion logic" with multiplex\$3                          | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>16:42 |
| S26 | 243 | (AES and permutation) and @ad < "20001213"                   | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>17:17 |
| S27 | 11  | AES with permutation                                         | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>16:46 |
| S28 | 6   | "Advanced encryption standard" with permutation              | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>16:48 |

|     |      |                                                                                                    |                                                         |    |    |                     |
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| S29 | 21   | ("data encryption standard" with permutation) and @ad < "20001213"                                 | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>17:15 |
| S30 | 1480 | ((((high adj2 performance) or (high adj2 speed)) with DES) and @ad < "20001213"                    | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>17:26 |
| S31 | 3    | (((((high adj2 performance) or (high adj2 speed)) with DES) and @ad < "20001213") and 380/42.ccls. | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>17:22 |
| S32 | 4    | "expansion logic" with (coupled with multiplexer)                                                  | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>17:23 |
| S33 | 2    | "expansion logic" with (coupled near multiplexer)                                                  | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>17:25 |
| S34 | 4    | "expansion logic" near5 (coupled near3 multiplexer)                                                | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>17:25 |
| S35 | 8    | "expansion logic" with (multiplexer)                                                               | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>17:25 |
| S36 | 2    | ("expansion logic" with (multiplexer)) and @ad < "20001213"                                        | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/21<br>17:26 |
| S37 | 7    | "permutation logic" with "expansion logic"                                                         | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/22<br>10:17 |
| S38 | 114  | "permutation" with "expansion"                                                                     | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/22<br>10:17 |

|     |      |                                                                                                                                                                                                                                                                                                                                                                                                      |                                                         |    |    |                     |
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| S39 | 53   | ("permutation" with "expansion") and @ad < "20001213"                                                                                                                                                                                                                                                                                                                                                | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/22<br>14:07 |
| S40 | 530  | "2-to-1 multiplexer" with "2-to-1 multiplexer"                                                                                                                                                                                                                                                                                                                                                       | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/22<br>14:08 |
| S41 | 401  | ("2-to-1 multiplexer" with "2-to-1 multiplexer") and @ad < "20001213"                                                                                                                                                                                                                                                                                                                                | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/22<br>16:29 |
| S42 | 6    | ("Data encryption standard" same (determination and shift and propagation and consumption))                                                                                                                                                                                                                                                                                                          | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2004/09/23<br>11:13 |
| S58 | 3077 | (multiplexer or mux) with (two near2 output \$) and @ad <= "20001213"                                                                                                                                                                                                                                                                                                                                | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/02/22<br>14:29 |
| S59 | 1    | (multiplexer or mux) with (two near2 output \$) and 380/42.ccls. and @ad <= "20001213"                                                                                                                                                                                                                                                                                                               | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/02/22<br>14:32 |
| S60 | 149  | (multiplexer or mux) with (two near2 output \$) with stor\$3 and @ad <= "20001213"                                                                                                                                                                                                                                                                                                                   | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/02/22<br>15:35 |
| S61 | 101  | ("4979832" "5231662"<br>"5375169" "5787173"<br>"6341299" "5778069"<br>"5751811" "5365588"<br>"6128387" "6167516"<br>"5001753" "5425103"<br>"5619576" "5781458"<br>"6014445" "6278780"<br>"6760440" "5317638"<br>"6192129" "6075865"<br>"6266417" "5297207"<br>"6097815" "5204901"<br>"5511123" "6237015"<br>"4314097" "4932056"<br>"5289397" "5727062"<br>"5734721" "5793659"<br>"6128764" "4275265" | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/02/22<br>15:36 |

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|     |   | "5825886" "6125182"<br>"6199086" "6269164"<br>"6278783" "6505299"<br>"6578061" "6785389"<br>"6859818" "5619575"<br>"5649014" "6028939"<br>"4481513" "6829742"<br>"4377863" "4394642").<br>pn. |                                                         |    |    |                     |
| S62 | 0 | S61 and ("2.to.2")                                                                                                                                                                            | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/02/22<br>15:36 |
| S63 | 0 | S61 and ("2-to-2")                                                                                                                                                                            | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/02/22<br>15:36 |
| S64 | 0 | S61 and ("3-to-2")                                                                                                                                                                            | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/02/22<br>15:37 |
| S65 | 0 | S61 and ("three-to-two")                                                                                                                                                                      | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/02/22<br>15:37 |
| S66 | 0 | S61 and ("two-to-two")                                                                                                                                                                        | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/02/22<br>15:37 |
| S67 | 0 | S61 and ("two-to-one")                                                                                                                                                                        | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/02/22<br>15:37 |
| S68 | 0 | S61 and ("three-to-one")                                                                                                                                                                      | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/02/22<br>15:37 |
| S69 | 0 | S61 and ("three to one")                                                                                                                                                                      | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR | ON | 2005/02/22<br>15:37 |

|     |     |                                                                                                                                                                             |                                                         |     |    |                     |
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| S70 | 0   | S61 and ("three to two")                                                                                                                                                    | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/02/22<br>15:37 |
| S71 | 15  | S61 and ("multiplexer")                                                                                                                                                     | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/02/23<br>13:17 |
| S72 | 240 | 380/42.ccls.                                                                                                                                                                | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/02/23<br>13:17 |
| S73 | 187 | 380/42.ccls. and @ad < "20001213"                                                                                                                                           | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/02/23<br>13:17 |
| S74 | 28  | 380/42.ccls. and (multiplexer or mux) and @ad < "20001213"                                                                                                                  | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/02/23<br>13:25 |
| S75 | 53  | (encryptor or encrypt \$3 or des or aes or "shift register" or scrambl\$3) with ((multiplexer or mux) near3 ((two or multiple or three) near2 output)) and @ad < "20001213" | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/02/23<br>13:28 |
| S76 | 2   | "6320964".pn.                                                                                                                                                               | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2005/08/15<br>10:30 |
| S77 | 16  | ("20010011251"<br>"20020106078"<br>"20020106080"<br>"5469547" "5661807"<br>"5671284" "6578150"<br>"6760439").pn.                                                            | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/08/15<br>10:31 |
| S78 | 7   | S77 and inverse                                                                                                                                                             | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/08/15<br>10:40 |

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| S80 | 0   | ep-5592553-\$.did.                                                                                                | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/08/15<br>10:41 |
| S81 | 23  | "5592553"                                                                                                         | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/08/15<br>10:57 |
| S84 | 280 | inverse near2<br>permutation                                                                                      | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/08/15<br>10:58 |
| S89 | 3   | ("x\$1or\$3" or combin<br>\$3 or "x\$5or\$5") near2<br>(inverse near2<br>permutation)                             | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/08/15<br>11:01 |
| S90 | 7   | ("x\$1or\$3" or combin<br>\$3 or "x\$5or\$5") near5<br>(inverse near2<br>permutation)                             | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/08/15<br>11:15 |
| S91 | 9   | ("x\$1or\$3" or combin<br>\$3 or "x\$5or\$5" or<br>"exclusive OR") near5<br>(inverse near2<br>permutation)        | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/08/16<br>05:52 |
| S92 | 0   | "xoring ((P^ (-1))(L))"                                                                                           | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2005/08/16<br>05:52 |
| S93 | 0   | "xor ((P^ (-1))(L))"                                                                                              | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2005/08/16<br>05:52 |
| S94 | 15  | ("x\$1or\$3" or "x\$5or<br>\$5" or "exclusive OR"<br>or "exclusive oring")<br>same (inverse near2<br>permutation) | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | OR  | ON | 2005/08/16<br>05:53 |
| S95 | 218 | inverse permutation                                                                                               | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2006/02/08<br>14:01 |



|      |     |                                                                                                    |                                                         |     |    |                     |
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| S96  | 218 | ((inverse permutation)<br>or (IP)top(S95)                                                          | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2006/02/08<br>14:09 |
| S101 | 31  | ((inverse permutation)<br>same DES                                                                 | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2006/02/09<br>08:30 |
| S102 | 31  | ((inverse permutation)<br>or ("IP.sup.-1")) same<br>DES                                            | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2006/02/09<br>08:32 |
| S103 | 0   | ("IP.sup.-1")                                                                                      | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2006/02/09<br>08:32 |
| S104 | 0   | ("IP.sup.(-1)")                                                                                    | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2006/02/09<br>08:32 |
| S105 | 0   | ("(IP).sup.(-1)")                                                                                  | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2006/02/09<br>08:32 |
| S106 | 31  | ((inverse permutation)<br>or ("IP.sup.-1")) same<br>("data encryption<br>standard" or DES)         | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2006/02/09<br>08:33 |
| S107 | 13  | ((inverse permutation)<br>or ("IP.sup.-1"))and<br>("data encryption<br>standard" or DES).ab.       | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2006/02/09<br>08:33 |
| S108 | 13  | ((inverse permutation)<br>or ("IP.sup.-1"))and<br>("data encryption<br>standard" or "DES").<br>ab. | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2006/02/09<br>08:33 |
| S109 | 2   | "6940975".pn.                                                                                      | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/04/12<br>15:33 |

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| S110 | 2   | "6028939".pn.                                                                                                          | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/04/12<br>15:35 |
| S111 | 2   | "5835559".pn.                                                                                                          | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/04/12<br>15:35 |
| S112 | 4   | (DES or "data encryption standard") same round same speed\$4 same (key schedul\$4) same key same clock same pipelin\$4 | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:10 |
| S113 | 0   | ("key scheduler" same (multi\$1stage pipeline) same (round key))                                                       | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:13 |
| S114 | 0   | ((key scheduler\$4) same (multi\$1stage pipeline) same (round key))                                                    | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:14 |
| S115 | 0   | ((key scheduler\$4) and (multi\$1stage pipeline) same (round key))                                                     | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:14 |
| S116 | 0   | ((multi\$1stage pipeline) same (round key))                                                                            | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:14 |
| S117 | 486 | ((round key))                                                                                                          | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:14 |
| S118 | 427 | ((multi\$1stage pipeline))                                                                                             | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:14 |

|      |     |                                                                                  |                                                         |     |    |                     |
|------|-----|----------------------------------------------------------------------------------|---------------------------------------------------------|-----|----|---------------------|
| S119 | 0   | ((key schedul\$4) same (multi\$1stage pipeline) same (round key))                | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:15 |
| S120 | 0   | ((key schedul\$4) and (multi\$1stage pipeline) same (round key))                 | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:15 |
| S121 | 0   | ((multi\$1stage pipeline) same (round key))                                      | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:15 |
| S122 | 1   | ((key schedul\$4) and (multi\$1stage pipeline) same (key))                       | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:16 |
| S123 | 1   | ((key schedul\$4) and (multi\$1stage pipelin \$4) same (key))                    | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:16 |
| S124 | 27  | ((key schedul\$4) and (pipelin\$4) same (round key))                             | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:22 |
| S125 | 13  | ((key schedul\$4) and (pipelin\$4) same (round key)) and (multi \$stage)         | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:17 |
| S126 | 13  | ((key schedul\$4) and (pipelin\$4) same (round key)) and (multi \$stage) and DES | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:17 |
| S127 | 20  | ((key schedul\$4) and (pipelin\$4) same (round key)) and (speed\$4 or fast)      | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:25 |
| S128 | 589 | multi\$1stage pipelin\$4                                                         | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:25 |

|      |      |                                                             |                                                         |     |    |                     |
|------|------|-------------------------------------------------------------|---------------------------------------------------------|-----|----|---------------------|
| S129 | 1    | multi\$1stage pipelin\$4<br>same key schedul\$4             | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/27<br>14:38 |
| S130 | 3    | shiferaw near eleni and<br>pipelin\$4                       | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>09:57 |
| S131 | 9    | pipelin\$4 near2 (key<br>schedul\$4)                        | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>09:59 |
| S132 | 9    | pipelin\$4 near4 (key<br>schedul\$4)                        | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>10:04 |
| S133 | 12   | pipelin\$4 near9 (key<br>schedul\$4)                        | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>10:03 |
| S134 | 0    | 20070091797,pn,                                             | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>10:03 |
| S135 | 2    | "20070091797".pn.                                           | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>10:03 |
| S136 | 1623 | pipelin\$4 near4<br>(schedul\$4)                            | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>10:04 |
| S137 | 19   | pipelin\$4 near4<br>(schedul\$4) same DES                   | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>10:04 |
| S138 | 114  | pipelin\$4 near ("DES"<br>or "data encryption<br>standard") | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>10:16 |

|      |      |                                                                    |                                                         |     |    |                     |
|------|------|--------------------------------------------------------------------|---------------------------------------------------------|-----|----|---------------------|
| S139 | 8    | pipelin\$4 near ("DES" or "data encryption standard").ab.          | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>10:17 |
| S140 | 0    | pipelin\$4 near ("DES" or "data encryption standard").ab. and fast | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>10:16 |
| S141 | 0    | pipelin\$4 near ("data encryption standard").ab.                   | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>10:17 |
| S142 | 2    | pipelin\$4 near ("data encryption standard")                       | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>10:41 |
| S143 | 2    | High Performance Cryptographic Hardware                            | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2007/11/29<br>10:41 |
| S144 | 2    | "7366300".pn.                                                      | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/07/02<br>10:12 |
| S145 | 412  | 380/29.ccls.                                                       | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/07/02<br>10:14 |
| S146 | 645  | 380/37.ccls.                                                       | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/07/02<br>10:14 |
| S147 | 562  | 380/255.ccls.                                                      | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/07/02<br>10:15 |
| S148 | 1638 | 380/28.ccls.                                                       | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/07/02<br>10:15 |

|      |     |                                                                                                                                                                                       |                                                         |     |    |                     |
|------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-----|----|---------------------|
| S149 | 0   | ((cryptography engine) and (data block) and portion and schedul\$4 and round and stage and pipeline and cycle and (bit sequence) and substitut\$4 and permutat\$4 and inverse).clm.   | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/07/02<br>10:24 |
| S150 | 0   | ((cryptography engine) and (data block) and portion and schedul\$4 and round and stage and pipelin\$4 and cycle and (bit sequence) and substitut\$4 and permutat\$4 and inverse).clm. | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/07/02<br>10:25 |
| S151 | 35  | S148 and (pipelin\$4 and schedul\$)                                                                                                                                                   | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/07/02<br>10:26 |
| S152 | 150 | 380/36.ccls.                                                                                                                                                                          | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/07/02<br>11:09 |
| S153 | 280 | 380/259.ccls.                                                                                                                                                                         | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/07/02<br>11:09 |
| S154 | 101 | 380/264.ccls.                                                                                                                                                                         | US-PGPUB;<br>USPAT; EPO;<br>JPO;<br>DERWENT;<br>IBM_TDB | ADJ | ON | 2008/07/02<br>11:10 |

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